



# ICAO

Sixth Meeting of the Asia/Pacific Airport Collaborative  
Decision Making Task Force (APA-CDM/TF/6)

*Video Teleconference, 28 to 30 April 2021*

## Agenda Item 6: APAC A-CDM Implementation Plan

### QUESTIONNAIRE BASED ON ICAO ASIA PACIFIC A-CDM IMPLEMENTATION PLAN

(Presented by India and CANSO)

#### SUMMARY

This paper presents the questionnaire developed as part of Monitoring Framework for monitoring the progress of achieving the performance expectations as per Asia/Pacific A-CDM Implementation Plan.

## 1. INTRODUCTION

1.1 A decision was taken in the First Meeting of the Asia/Pacific A-CDM Task Force (APA-CDM/TF/1), held at Kunming, China on 20<sup>th</sup> & 21<sup>st</sup> April 2017 that a survey questionnaire (#1) would be developed and circulated to APAC States to meet the objective of the task force in relation to reviewing the status of A-CDM implementation in APAC Region

1.2 At the Second Meeting of the APA-CDM/TF held in Hong Kong, China from 29<sup>th</sup> November to 01<sup>st</sup> December 2017 it was decided that APA-CDM/TF will draft a Regional A-CDM Implementation Plan to foster harmonized and interoperable A-CDM implementation in the Asia/Pacific Region. The meeting agreed to re-circulate the survey to states/ administrations to seek a clarification in cases where the information provided was not clear.

1.3 India and CANSO presented the results of the ICAO APA-CDM Survey Questionnaire in the Third meeting of /TF/3 held at Bali, Indonesia from 13<sup>th</sup> to 16<sup>th</sup> August 2018. After deliberation and detailed review of the revised version incorporating feedback from APA-CDM, the draft Asia/Pacific A-CDM Implementation Plan was adopted during the APA-CDM/TF/4 held at Bangkok, Thailand from 22<sup>nd</sup> to 26<sup>th</sup> April 2019 and sent for approval by the Aerodrome Operations and Planning Sub Group (AOP/SG).

1.4 The AOP/SG/3 held in June 2019 reviewed and approved the Draft Asia/Pacific A-CDM Implementation Plan. APANPIRG/30 extended the Task Force by two years and the Terms of Reference (TOR) for APA-CDM/TF Group were modified.

1.5 As per the modified TOR, the scope and objective of the APA-CDM/TF is to assist States in implementation of A-CDM at international aerodromes. To achieve the above objective, the Task Force shall, among others:

- a) Monitor and assist States in implementation of A-CDM at international aerodromes to foster harmonized implementations as per Asia/Pacific A-CDM Implementation Plan;

- b) Encourage States to share their experiences and best practices in implementing A-CDM through Workshop /Seminar; and
- c) Monitor the progress of achieving the performance expectations as per Asia/Pacific A-CDM Implementation Plan and review them as needed.

1.6 A survey questionnaire has been developed to be circulated to member States/Administrations in ICAO APAC Region as per the TOR and Task 5/1 of the APA-CDM/TF Task List.

## 2. DISCUSSION

2.1 A-CDM Implementation plan is believed to serve as a roadmap for a uniform, harmonized and scalable implementation of A-CDM in APAC Region. It is necessary to measure the progress of states in achieving the performance expectation as per Asia/Pacific A-CDM Implementation Plan.

2.2 The Survey Questionnaire has been developed with the following objectives:

- a) Allow states to provide updated information on the implementation; and
- b) Monitor the progress of achieving the performance expectations as per Asia/Pacific A-CDM Implementation Plan.

2.3 The Survey outcome will be used to review the Performance expectations of A-CDM Implementation plan as needed, in consultation with ATFM/SG.

2.4 The questionnaire (**Appendix A**) is categorized into the following topics:

- a) Overall A-CDM Implementation Status
- b) Stakeholder's involvement
- c) A-CDM Procedures & Compliance
- d) System Functions
- e) ATFM Integration
- f) Interoperability

2.5 The questionnaire will be sent as Microsoft Excel spreadsheet (**Appendix B**) through ICAO APAC Regional Office.

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information provided in the paper;
- b) States/Administrations to provide their input through completed survey questionnaire (**Appendix B**); and
- c) Discuss any relevant matter as appropriate.

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**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION  
[NAME OF STATE/ADMINISTRATION]**

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**QUESTIONNAIRE BASED ON  
ICAO ASIA PACIFIC AIRPORT COLLABORATIVE DECISION MAKING (A-CDM)  
IMPLEMENTATION PLAN (First Edition 2019)**

Overall A-CDM Implementation Status of  
[Airport Name]

1. What is the phase of A-CDM Implementation at your Airport? *(Select one)*

- [A] Not yet started
- [B] Initiation Phase
- [C] Implementation Phase
- [D] Trial Phase
- [E] Operations & Monitoring Phase

*Please add free text / comments, if needed:*

2. Is the A-CDM implementation enforcing operation with TOBT and TSAT?

- [A] Yes
- [B] No
- [C] Only TOBT
- [D] Only TSAT

*Please add free text / comments, if needed:*

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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3. Which of the following A-CDM enabling elements are being implemented to support A-CDM operations?

- [A] Information sharing
- [B] Milestone Management
- [C] Variable Taxi Times
- [D] Pre-Departure Sequencing
- [E] A-CDM in adverse conditions
- [F] Integration with Air Traffic Flow Management (ATFM) system

*Please add free text / comments, if needed:*

**Stakeholders' Involvement**

4. Which stakeholders are involved in the A-CDM project and process?

- [A] Airport operator
- [B] Airline operators
- [C] Ground handlers
- [D] Air Navigation Service Provider
- [E] Network Operations/ATFM unit
- [F] Other (Provide details)

*Please add free text / comments, if needed:*

5. Which stakeholders are having access to A-CDM Information?

- [A] Airport operator
- [B] Airline operators
- [C] Ground handlers
- [D] Air Navigation Service Provider
- [E] Network Operations/ATFM unit
- [F] Other (Provide details)

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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*Please add free text / comments, if needed:*

**A-CDM Procedures & Compliance**

6. Do you have procedures in place for A-CDM operations at your airport?

- [A] Yes, procedures are in place for all stakeholders
- [B] We are in the process of formulating procedures
- [C] Not yet started formation of the procedures
- [D] We have some other plans. Please provide brief:

*Please add free text / comments, if needed:*

7. Are roles & responsibilities for each stakeholder clearly defined in the local A-CDM procedures?  
(Select one)

- [A] Yes
- [B] No

*Please add free text / comments, if needed:*

8. Which of the below mentioned Key Performance Indicators (KPI) w.r.t. TOBT are monitored?

- [A] TOBT input participation rate
- [B] TOBT Accuracy
- [C] KPI related to TOBT are not being monitored

*Please add free text / comments, if needed:*

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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9. Is TSAT Compliance monitored? (Select one)

- [A] Yes
- [B] No
- [C] Sometimes. (Provide brief)

*Please add free text / comments, if needed:*

10. Is ATC using TSAT for approving startup to aircraft? (Select one)

- [A] Yes
- [B] No
- [C] Sometimes. (Provide brief)

*Please add free text / comments, if needed:*

11. Does local policy require the aircraft to report/be ready for start-up/pushback within certain minutes prior to or after the confirmed TOBT, irrespective of TSAT? (Select one)

- [A] Yes
- [B] No

*If "Yes" please fill in how many minutes:*

12. Does local policy mandate the Pilots to request start/pushback clearance within certain minutes prior to or after TSAT? (Select one)

- [A] Yes
- [B] No

*If "Yes" please fill in how many minutes:*

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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13. Does local policy require the departure clearance to be requested within certain minutes prior to or after TOBT/TSAT? (Select one)

- [A] Yes
- [B] No

*If "Yes" please fill in how many minutes:*

14. What are the A-CDM performance indicators commonly agreed upon amongst stakeholders for A-CDM performance monitoring?

- [A] Turnaround compliance
- [B] In-Block Time accuracy
- [C] Off-Block Time accuracy
- [D] Average taxi out time
- [E] Gate/Bay/Stand occupancy time
- [F] Gate/Bay/Stand allocation and passenger gate freezing time
- [G] Gate/Bay/Stand allocation accuracy
- [H] Number of bay conflicts per day
- [I] Slot adherence
- [J] Emission from aircraft, on ground
- [K] Number of aircraft queueing in high demand periods
- [L] Number of aircraft compliant with ATFM slot (CTOT)
- [M] Other (Provide details)

*Please add free text / comments, if needed:*

**System Functions**

15. How is the TOBT input for the A-CDM system is updated:

- [A] Manually by Aircraft Operator / GHA
- [B] Automatically by system, considering ELDT and MTTT
- [C] By a mix of both the above
- [D] By some other way. Please provide brief.

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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*Please add free text / comments, if needed:*

16. How is VTT (Variable Taxi Time) considered in the System?

- [A] Fixed Taxi Times between runways and bays
- [B] Dynamic Taxi Times by considering live ground movements, changes at airfield and/or traffic flows.
- [C] Both the above
- [D] Not available

*Please add free text / comments, if needed:*

17. Does the A-CDM implementation include a predeparture sequencing (PDS)?

- [A] Yes
- [B] No
- [C] PDS will be implemented at a later stage

*Please add free text / comments, if needed:*

18. How is the PDS implemented as part of the overall A-CDM solution? (Select one)

- [A] PDS feature is in-built in A-CDM system
- [B] PDS is generated by an external system

*Please add free text / comments, if needed:*

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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19. Which of the following mandatory milestones captured/calculated in the A-CDM System?

- [A] ATC Flight Plan Activated
- [B] Aircraft Landed
- [C] Aircraft is in-block
- [D] TOBT Updated
- [E] TSAT Issued
- [F] Aircraft is off-block
- [G] Take-off time

*Please add free text / comments, if needed:*

20. Which of the following optional milestones captured/calculated in the A-CDM System?

- [A] CTOT Allocation
- [B] Take-off from Outstation
- [C] FIR Entry
- [D] Final Approach
- [E] Ground Handling Starts
- [F] Boarding Starts
- [G] Aircraft Ready
- [H] Start Up Requested
- [I] Start Up Approved

*Please add free text / comments, if needed:*

21. How are TOBT and TSAT shared with Flight Crew?

- [A] VDGS / A-VDGS / Airside Display Board
- [B] Web interface / Mobile application
- [C] Ground personnel communicate TOBT and TSAT to flight crew
- [D] ATC communicates the TSAT
- [E] Other means. Provide details.

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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*Please add free text / comments, if needed:*

**ATFM Integration**

22. Is there a plan to integrate Local A-CDM with ATFM? (Select one)

- [A] Yes
- [B] No
- [C] To be decided
- [D] Not applicable (ATFM is not operational)

*Please add free text / comments, if needed:*

23. Does your A-CDM system exchange information with the ATFM system? (Select one)

- [A] Yes
- [B] No
- [C] Under planning

*Please add free text / comments, if needed:*

24. Is the A-CDM system integrated with ATFM system for data exchange? (Select one)

- [A] Yes
- [B] No
- [C] Will be integrated later

*Please add free text / comments, if needed:*

**FRAMEWORK FOR MONITORING A-CDM IMPLEMENTATION**  
**[NAME OF STATE/ADMINISTRATION]**

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25. Is CTOT considered in the calculation of TSAT? (Select one)

- [A] Yes
- [B] No
- [C] Will be implemented at a later date

*Please add free text / comments, if needed:*

**Interoperability**

26. Is reference model like FIXM been adopted in Data Exchange? (Select one)

- [A] Yes
- [B] No
- [C] Planned for later

*Please add free text / comments, if needed:*

# ICAO APAC A-CDM QUESTIONNAIRE

STATE / ADMINISTRATION:

#	NAME OF THE AIRPORT	Airport 3	Airport 2	Airport 1
1	<b>What is the phase of A-CDM Implementation at your Airport?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			
2	<b>Is the A-CDM implementation enforcing operation with TOBT and TSAT?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			
3	<b>Which of the following A-CDM enabling elements are being implemented to support A-CDM operations</b>			
	Information Sharing	Yes/No	Yes/No	Yes/No
	Milestone Management	Yes/No	Yes/No	Yes/No
	Variable Taxi times	Yes/No	Yes/No	Yes/No
	Pre-Departure Sequencing	Yes/No	Yes/No	Yes/No
	A-CDM in Adverse Conditions	Yes/No	Yes/No	Yes/No
	Integration with Air Traffic Flow Management System	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
Stakeholders' Involvement				
4	<b>Which stakeholders are involved in the A-CDM project and process?</b>			
	Airport operator	Yes/No	Yes/No	Yes/No
	Airline operators	Yes/No	Yes/No	Yes/No
	Ground handlers	Yes/No	Yes/No	Yes/No
	Air Navigation Service Provider	Yes/No	Yes/No	Yes/No
	Network Operations/ATFM unit	Yes/No	Yes/No	Yes/No
	Other (Provide details)	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
5	<b>Which stakeholders are having access to A-CDM Information?</b>			
	Airport operator	Yes/No	Yes/No	Yes/No
	Airline operators	Yes/No	Yes/No	Yes/No
	Ground handlers	Yes/No	Yes/No	Yes/No
	Air Navigation Service Provider	Yes/No	Yes/No	Yes/No
	Network Operations/ATFM unit	Yes/No	Yes/No	Yes/No
	Other (Provide details)	Yes/No	Yes/No	Yes/No

	<i>Please add free text / comments, if needed:</i>			
A-CDM Procedures & Compliance				
6	<b>Do you have procedures in place for A-CDM operations at your airport?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			
7	<b>Are roles &amp; responsibilities for each stakeholder clearly defined in the local A-CDM procedures?</b>	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
8	<b>Which of the below mentioned Key Performance Indicators (KPI) w.r.t. TOBT are monitored?</b>			
	TOBT input participation rate	Yes/No	Yes/No	Yes/No
	TOBT Accuracy	Yes/No	Yes/No	Yes/No
	KPI related to TOBT are not being monitored	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
9	<b>Is TSAT Compliance monitored?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			
10	<b>Is ATC using TSAT for approving startup to aircraft?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			
11	<b>Does local policy require the aircraft to report/be ready for start-up/push-back within certain minutes prior to or after the confirmed TOBT, irrespective of TSAT?</b>	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
12	<b>Does local policy mandate the Pilots to request start/pushback clearance within certain minutes prior to or after TSAT?</b>	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
13	<b>Does local policy require the departure clearance to be requested within certain minutes prior to or after TOBT/TSAT?</b>	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			
14	<b>What are the A-CDM performance indicators commonly agreed upon amongst stakeholders for A-CDM performance monitoring?</b>			
	Turnaround compliance	Yes/No	Yes/No	Yes/No
	In-Block Time accuracy	Yes/No	Yes/No	Yes/No

Off-Block Time accuracy	Yes/No	Yes/No	Yes/No
Average taxi out time	Yes/No	Yes/No	Yes/No
Gate/Bay/Stand occupancy time	Yes/No	Yes/No	Yes/No
Gate/Bay/Stand allocation and passenger gate freezing time	Yes/No	Yes/No	Yes/No
Gate/Bay/Stand allocation accuracy	Yes/No	Yes/No	Yes/No
Number of bay conflicts per day	Yes/No	Yes/No	Yes/No
Slot adherence	Yes/No	Yes/No	Yes/No
Emission from aircraft, on ground	Yes/No	Yes/No	Yes/No
Number of aircraft queueing in high demand periods	Yes/No	Yes/No	Yes/No
Number of aircraft compliant with ATFM slot (CTOT)	Yes/No	Yes/No	Yes/No
Other (Provide details)	Yes/No	Yes/No	Yes/No
<i>Please add free text / comments, if needed:</i>			

System Functions
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15	<b>How is the TOBT input for the A-CDM system is updated?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			

16	<b>How is VTT (Variable Taxi Time) considered in the System?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			

17	<b>Does the A-CDM implementation include a predeparture sequencing (PDS)?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			

18	<b>How is the PDS implemented as part of the overall A-CDM solution?</b>	SELECT	SELECT	SELECT
	<i>Please add free text / comments, if needed:</i>			

19	<b>Which of the following mandatory milestones captured/calculated in the A-CDM System?</b>			
	ATC Flight Plan Activated	Yes/No	Yes/No	Yes/No
	Aircraft Landed	Yes/No	Yes/No	Yes/No
	Aircraft is in-block	Yes/No	Yes/No	Yes/No
	TOBT Updated	Yes/No	Yes/No	Yes/No
	TSAT Issued	Yes/No	Yes/No	Yes/No
	Aircraft is off-block	Yes/No	Yes/No	Yes/No
	Take-off time	Yes/No	Yes/No	Yes/No
	<i>Please add free text / comments, if needed:</i>			

20	<b>Which of the following optional milestones captured/calculated in the A-CDM System?</b>			
	Turnaround compliance	Yes/No	Yes/No	Yes/No
	In-Block Time accuracy	Yes/No	Yes/No	Yes/No
	Off-Block Time accuracy	Yes/No	Yes/No	Yes/No

Average taxi out time	Yes/No	Yes/No	Yes/No
Gate/Bay/Stand occupancy time	Yes/No	Yes/No	Yes/No
Gate/Bay/Stand allocation and passenger gate freezing time	Yes/No	Yes/No	Yes/No
Gate/Bay/Stand allocation accuracy	Yes/No	Yes/No	Yes/No
Number of bay conflicts per day	Yes/No	Yes/No	Yes/No
Slot adherence	Yes/No	Yes/No	Yes/No
Emission from aircraft, on ground	Yes/No	Yes/No	Yes/No
Number of aircraft queueing in high demand periods	Yes/No	Yes/No	Yes/No
Number of aircraft compliant with ATFM slot (CTOT)	Yes/No	Yes/No	Yes/No
Other (Provide details)	Yes/No	Yes/No	Yes/No
<i>Please add free text / comments, if needed:</i>			

<b>21 How are TOBT and TSAT shared with Flight Crew?</b>			
VDGS / A-VDGS / Airside Display Board	Yes/No	Yes/No	Yes/No
Web interface / Mobile application	Yes/No	Yes/No	Yes/No
Ground personnel communicate TOBT and TSAT to flight crew	Yes/No	Yes/No	Yes/No
ATC communicates the TSAT	Yes/No	Yes/No	Yes/No
Other means. Provide details.	Yes/No	Yes/No	Yes/No
<i>Please add free text / comments, if needed:</i>			

ATFM Integration
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<b>22 Is there a plan to integrate Local A-CDM with ATFM?</b>	SELECT	SELECT	SELECT
<i>Please add free text / comments, if needed:</i>			

<b>23 Does your A-CDM system exchange information with the ATFM system?</b>	SELECT	SELECT	SELECT
<i>Please add free text / comments, if needed:</i>			

<b>24 Is the A-CDM system integrated with ATFM system for data exchange?</b>	SELECT	SELECT	SELECT
<i>Please add free text / comments, if needed:</i>			

<b>25 Is CTOT considered in the calculation of TSAT?</b>	SELECT	SELECT	SELECT
<i>Please add free text / comments, if needed:</i>			

Interoperability
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<b>26 Is reference model like FIXM been adopted in Data Exchange?</b>	SELECT	SELECT	SELECT
<i>Please add free text / comments, if needed:</i>			